

1 1. A communications device comprising:
2 a transmitter that converts electrical representations of aural signals into
3 signals for transmission over a medium;
4 a receiver that receives communication signals for conversion into
5 representations of aural signals;
6 a touch-screen display comprising icons representing numbers that are used to
7 enter at least a number in response to a contact area, on the display, over a particular
8 icon to be entered; and
9 a controller, coupled to the transmitter, the receiver, and the touch-screen
10 display, the controller controlling the communications device and comprising an
11 apparatus that generates the icons representing numbers for display on the touch-
12 screen display, the controller additionally comprising an apparatus that generates an
13 accumulated telephone number in response to the particular icons contacted on the
14 touch-screen display.

1 2. The communications device of claim 1 wherein the controller is a
2 microprocessor.

1 3. The communications device of claim 1 wherein the medium for
2 transmission is a wireless channel.

1 4. The communications device of claim 1 and further including a
2 microphone for generating, from speech, electrical representations of aural signals for
3 transmission.

1 5. The communications device of claim 1 and further including a speaker
2 for generating aural signals from received electrical representations of aural signals.

1 6. The communications device of claim 1 wherein the communications
2 device comprises a telephone and a personal digital assistant.

1 7. The communications device of claim 6 wherein a telephone mode of
2 operation is selected by contact of an icon, generated by the controller, representing
3 the telephone mode.

1 8. The communications device of claim 6 wherein a personal digital
2 assistant mode of operation is selected by contact of an icon, generated by the
3 controller, representing the personal digital assistant mode.

1 9. The communications device of claim 1 and further comprising:
2 a headset comprising:
3 a speaker for generating aural signals from received electrical representations
4 of aural signals;
5 a microphone for generating, from speech, electrical representations of aural
6 signals for transmission; and
7 a low power transceiver that couples the headset to the communications
8 device.

1 10. A wireless radiotelephone that communicates wireless signals with a
2 base station, the wireless radiotelephone having a personal digital assistant mode and
3 a communications mode, the wireless radiotelephone comprising:
4 a transmitter that converts electrical representations of aural signals into
5 communication signals for transmission over a wireless channel to the base station;
6 a receiver that receives wireless signals from the base station for conversion
7 into received electrical representations of aural signals;
8 a touch-screen display comprising icons representing numbers that are used to
9 enter a number in response to a contact, on the display, over a particular icon to be
10 entered; and
11 a controller, coupled to the transmitter, the receiver, and the touch-screen
12 display, the controller controlling operation of the communications device and
13 comprising an apparatus that generates the icons representing numbers for display on
14 the touch-screen display, the controller additionally comprising an apparatus that
15 generates and displays an accumulated telephone number in response to the particular

16 icons contacted on the touch-screen display.

1 11. The wireless radiotelephone of claim 10 wherein the wireless channel
2 is a code division multiple access air interface channel.

1 12. The wireless radiotelephone of claim 10 and further comprising:
2 a headset comprising:
3 a speaker for generating aural signals from the received electrical
4 representations of aural signals;
5 a microphone for generating, from speech, the electrical representations of
6 aural signals for transmission; and
7 a low power wireless transceiver that couples the headset to the wireless
8 radiotelephone.

1 13. The wireless radiotelephone of claim 10 wherein the personal digital
2 assistant mode is selected by contact of an icon, generated by the controller,
3 representing the personal digital assistant mode.

1 14. The wireless radiotelephone of claim 10 wherein the telephone mode is
2 selected by contact of an icon, generated by the controller, representing the telephone
3 mode.

1 15. A method for communication by a buttonless communications device
2 having a telephone mode, the method comprising the steps of:
3 generating a plurality of number icons;
4 displaying the plurality of number icons on a touchscreen display; and
5 generating a telephone number in response to which particular icons are
6 selected by contact with the touchscreen display.

1 16. The method of clam 15 and further comprising the steps of:
2 generating an icon representing the telephone mode;
3 displaying the telephone mode icon on the touchscreen display; and

4 initiating the telephone mode in response to contact with the touchscreen
5 display that corresponds with the telephone mode icon.

1 17. The method of claim 15 and further comprising the steps of:
2 generating an icon representing a personal digital assistant mode;
3 displaying the personal digital assistant mode icon on the touchscreen display;
4 and
5 initiating the personal digital assistant mode in response to contact with the
6 touchscreen display that corresponds with the personal digital assistant mode icon.
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1 18. The method of claim 15 and further including the step of transmitting
2 the telephone number to a central switch for dialing.

1 19. The method of claim 15 and further including the steps of:
2 the buttonless communications device receiving an incoming call; and
3 indicating the incoming call by an alert indication.

1 20. The method of claim 19 wherein the alert indication is an aural tone.

1 21. The method of claim 19 and further including the step of automatically
2 switching to the telephone mode upon receipt of the incoming call.

1 22. The method of claim 15 and further including the steps of:
2 switching to a telephone book mode;
3 finding a desired telephone number for calling; and
4 initiating a telephone call by contact with the desired telephone number.

1 23. A communications device that transmits and receives communication
2 signals, the communications device comprising:
3 a tactile response, touch-screen display comprising dynamically activated
4 tactile elements; and
5 a controller, coupled to the tactile response, touch-screen display, the

6 controller controlling operation of the communications device including dynamically
7 activating the tactile elements, the controller comprising means to generate icons
8 representing data for display on the touch-screen display.

1 24. The communications device of claim 23 and further comprising:
2 a transmitter that converts electrical representations of aural signals into
3 communication signals for transmission over a medium; and
4 a receiver that receives communication signals for conversion into received
5 electrical representations of aural signals.

1 25. The communications device of claim 23 wherein the tactile response,
2 touchscreen display is comprised of a matrix of substantially closely spaced tactile
3 elements.

1 26. The communications device of claim 25 wherein the tactile elements
2 are activated by electrically addressing a desired tactile element.

1 27. The communications device of claim 25 wherein the tactile elements
2 are activated by addressing a desired tactile element utilizing a fluid controlled by the
3 controller.

1 28. The communications device of claim 23 wherein the controller has
2 means for forming a numeric keypad by activating a plurality of the tactile elements
3 situated over number icons generated on the touchscreen display.

1 29. A method for communication by a buttonless communications device
2 comprising a tactile element, touchscreen display, the method comprising the steps of:
3 generating a plurality of data icons on the touchscreen display;
4 activating a sufficient quantity of tactile elements over each of the plurality of
5 data icons to provide a tactile response to touching a data icon; and
6 generating a telephone number in response to which particular data icons are
7 selected by contact with the touchscreen display.

1 30. The method of claim 29 and further including the step of displaying the
2 telephone number generated by the selection of particular data icons.

1 31. The method of claim 29 and further including the step transmitting the
2 telephone number to a central switch in order to call the telephone number.

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